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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/772,419 | 02/06/2004 | Shunpei Yamazaki | 740756-2712 | 2060 |
| 22204 | 7590 | 10/10/2007 | | |
| NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128 | | | EXAMINER OLSEN, ALLAN W | |
| | | | ART UNIT 1792 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/772,419

Applicant(s)

YAMAZAKI, SHUNPEI

Examiner

Allan Olsen

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1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/25/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on June 25, 2007 (arguments) and September 20, 2007 (claims) have been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 3, 5, 9, 13, 14, 17 and 20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. It is not clear that the specification provides support for the various claimed pairs of layers both being etched by the same (i.e., first or second) plasma generating device. For example, claim 3 requires that the resist film be etched with the same second plasma generating device

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that was used to etch the contact hole. Similarly, claim 5 requires forming a wiring layer by etching a conductive layer with a second plasma generating device and the same plasma generating device is used to form a contact hole. Claims 13 and 14 have similar requirements while claims 17 and 20 are included solely on the basis of their dependency upon claim 5.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10-12 recite the limitation "wherein the one pair of electrodes". There is insufficient antecedent basis for this limitation in these claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 6, 7, 10, 11, 15, 16, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2004/0224433.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Yamazaki teaches a method of manufacturing display device comprising. Yamazaki teaches forming a conductive film over a substrate by ejecting liquid droplets containing conductive particles by using a first liquid droplet ejecting apparatus comprising a liquid droplet ejecting head provided with a plurality of liquid droplet ejecting nozzles arranged linearly (see, for example, figure 9A). Yamazaki teaches forming a resist pattern locally on the conductive film by using a second liquid droplet ejecting apparatus, comprising a liquid droplet ejecting head provided with a plurality of liquid droplet ejecting nozzles arranged linearly (see, for example, figure 9B). Yamazaki teaches forming a wiring by etching the conductive film with the resist pattern as a mask at an atmospheric pressure or a pressure close to the atmospheric pressure by using a first plasma generating device comprising a plurality of pairs of electrodes (see, for example figure 9C and ¶ [0056]). Yamazaki teaches forming an insulating film (33) over the wiring and forming a contact hole (35) by etching the insulating film at the atmospheric pressure or a pressure close to the atmospheric pressure by using a second plasma generating device provided with a pair of electrodes (see figures 11B and 11C, and ¶¶ [0065] - [0066]). Yamazaki teaches the wiring may comprise, for example, Al, Ti, Ta, Mo and

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oxides of indium, tin and zinc (see, for example, ¶¶ [0048], [0054], [0067], [0089]).

Yamazaki teaches a plasma generating device having cylindrical electrodes (see, for example, figure 7). Yamazaki teaches the insulating film may comprise silicon nitride or silicon oxide (see for example, ¶¶ [0065] or [0072]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 5, 8, 9, 12, 13, 14, 117 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki.

The above noted teachings of Yamazaki are herein relied upon. Yamazaki does not necessarily teach that certain layers are etched with the same (or different) plasma generating device.

The claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. The use of one plasma generating device or another would not be expected to materially impact the outcome of the process because one plasma generating device is the equivalent of another plasma generating device. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to use any given plasma generating to etch any given layer that it would be capable of etching.

Response to Arguments

Applicant's arguments filed June 25, 2007 have been fully considered but they are not persuasive. Applicant argues:

Yamazaki et al. does not teach a manufacturing method of a display device including, "forming a contact hole... by using a second plasma generating device provided with a pair of electrodes" as recited by claims 1 and 4-5.

However, as articulated in the above rejection, with reference to figures and paragraph numbers, Yamazaki does teach this claimed feature.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Olsen whose telephone number is 571-272-1441. The examiner can normally be reached on M, W and F: 1-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allan Olsen
Primary Examiner
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